



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/722,950

11/25/2003

Russell Alan Parker

10030712-1

9616

22878

7590

01/18/2005

AGILENT TECHNOLOGIES, INC.  
INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT.  
P.O. BOX 7599  
M/S DL429  
LOVELAND, CO 80537-0599

EXAMINER

PADGETT, MARIANNE L

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/722,950

Applicant(s)

PARKER ET AL.

Examiner

Marianne L. Padgett

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/8/04 & 6/14/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 12,13,19-24,32 and 34-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11,14-18,25-31 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/14/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1762

1. Applicant's election with traverse of Group I method, species a.ii (nonpolar organic solvent claims 14-15), b.i. (Plasma, claims 17-18) and c.i. (backing element, claim 31), thus claims 1-11, 14-18, 25-31 and 33 in the reply filed on 10/8/04 is acknowledged. The traversal is on the ground(s) that little if any additional searching should be required for non-elected claims and species. This is not found persuasive because the apparatus, product (kit) and detecting method are each entirely different classes, than the elected coating method, each necessitating considerable more searching for the various different concepts or features. As to the species, this reasoning is not a proper traversal, as they are not stated to be equivalent or the like, and it is further noted as pre-or post-deposition treatment with plasma, or electrons, or UV, or blown gas or beads are all process that have completely separate classification, hence searches in class 427 (488-491 or 435-439) or (496<sup>+</sup> or 551) or (508 or 553+ or 558) or (377-378) or 355, respectively, so the allegation of little additional searching is also not convincing with respect to species. Note that this examiner would have grouped species b.ii and b.vii together as overlapping meaning/search, but both are non-elected, hence the issue is presently mute.

It also appears that if logically clarified (see section 3 below), claim 6, 25, 28 and 33 would be included with nonelected species of microarray assembly, as the gasket therein is part of this assembly.

The requirement is still deemed proper and is therefore made FINAL.

2. Applicant's election of the above species in the reply filed on 10/8/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement for the species, this election has been treated as an election without traverse (MPEP § 818.03(a)).

Art Unit: 1762

3. Claims 1-11, 14-18, 25-31 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Use of “/”, a slash, in the claims can be confusing or lacking in clarity, since it can be uncertain if it is intended to mean the limitations separated by the slash are alternatives, used together, used in sequence, etc, i.e. it can mean “or”, “and” or “and/or”, hence may be considered ambiguous. It will be considered in all its possibilities, including the broadest possibility as suggesting alternatives, and thus as per the above election, in “backing element/microarray assembly” it is the former that will be examined. Note in claimed 29 (and 22) “UV/O<sub>2</sub>” also employs a slash, such that there may be considered to be 4 contacting choices in claim 29, plasma or UV or O<sub>2</sub> or solvent. While the listing in claim 29 suggests the use of “/” may be intended as a unit to mean “and”, claims 1, 31-32 suggest the opposite, that its intended to mean ‘or’ due to the choice of “at least one member” in claim 1 or the specific claims of just one of the components so grouped. It is noted that [0027] of the specification tends to further confuse this issue, as it defines terms inconsistently with required choices in the claims.

Use of relative terms that lack clear metes and bounds in the claims, or in a clear definition in the specification or cited relevant prior art, is vague and indefinite. In claim 5, see “adversely affect”. (Also, an array has no clear relationship to previous limitations, and “its reading” no clear meaning). It is noted, “micro” in “microarray assembly” is relative term, but [0022] on page 5 provides a definition that indicates that the array is composed of binding sites on a molecular scale.

In reviewing the specification for any definition of “backing element structure”, none was found, however on. P. 7, while [0027] adds some confusion to the issues in the claim language, it appears to indicate that the claimed ‘backing element’ may (or need not) be a part of a composite microarray structure, but is definitely not and does not contain a “gasket”, hence claims 6, 25 28 an 33 essentially unexaminable for the choice of the “backing element” species, since no gasket need be present or is positively claimed to be present for the selected member species. It is further noted that backing element appears to be equivalent to substrate, having no more specific structure or material it must comprise. Use in a microarray structure discussed in [0027] is only an intended use, and there is not even any intended use necessitated by the claims as written, since one need not select the member to be a microarray assembly structure (as indeed applicant did not). While a backing element may be intended to mean something more specific than generic substrate, this examiner can not determine exactly what that might be.

In claim 25, regardless of the choice of which one member, it is unclear where the “uncured gasket material” might be with respect to any limitation in the claims from which it depends (16 and 1), as no relationship to anything in these claims has been established or necessitated.

Claim 8 contains the trademark/trade name D4-D20. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a

Art Unit: 1762

trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe some kind of siloxanes (see below) and, accordingly, the identification/description is indefinite.

The scope of claim 8 is somewhat unclear due to the use of the abbreviation or tradename in the claim, which is improper. It appears to be partially defined in [0083] on p. 28, where a formula  $D_n = ((CH_3)_2 SiO)_n$  is given for cyclic siloxane molecules, however n is undefined (although the examiner guesses that n=4 to 20 might be intended). No formula or bounds are given for linear molecules, just that they are included, and an example. Some clarification here is recommended.

It is noted that [0083] also provides a discussion of some meanings of “truncated polymer”, but while it give examples (not a definition) of what this term the examiner has never seen before may include, it explicitly states “Truncated polymers as used...include, but are not limited to ...”, hence its scope is unclear.

It is noted, claim 11 depends from 10, which already requires the solvent to be aqueous, thus requiring at to be organic, possibly nonpolar (14-15) may be contradictory, if they are not miscible. Is applicant requiring all solvents in claims 11-15 to be aqueous, contradicting claim 10, or is a combination intended, but not clearly stated, or was the dependency unintended? If intended to be separate, aqueous should have been a species (a) choice!

Use of proper Markush group terminology is recommended for clarity. While claim 15 is technically Ok as it specifies a choice be made, claim 18 is confusing as it is written, as it appears to require that all the listed gases be used, as they are NOT in the alternative, but additional inclusion of “and combinations thereof” suggests that a single gas could be employed.

Art Unit: 1762

With respect to claim 15, it is noted that according to Hawley's Cond. Chem. Dict., (p. 570) a "glyme" is a trivial name for a "glycolether", hence the claimed "glymes" are totally encompassed by the claimed "ethers".

In claim 31, it is unclear how calling the backing element a substrate provide any further limitation, as it appears to be what a backing element is, by its literal definition.

In claims 26-29, it is assumed that "said treatment" is referring back to "treating" in line 1 of claim 1, but clarification of this antecedence would be appropriate.

4. Claims 11-15 and 33 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 33 depends from claim 1, which has already defined the range from which the "member" is chosen. A gasket is not one of the choices; hence this claim improperly expands a limitation of a preceding claim. Alternately, as discussed above, its relationship to the microarray assembly is unclear as claimed.

As noted above, claims 11-15 potentially contradict the required aqueous solvent of claim 10 from which they depend, hence may be improperly dependent. At the minimum the meaning is ambiguous.

5. For the claims as written, and species as chosen claim 1 is noted to read on 3 broad options, where (3) overlaps with both (1) and (2). Read at its broadest, backing elements = any substrate; component = anything from a dust speck to an electronic component that may be soldered on to any coating or for extracting any element (periodic table type), molecular

Art Unit: 1762

functional group or composition present in the backing (member, substrate). Extracting includes any kind of etching, removal, etc. Surface modifying is inclusive of both deposition and extraction. Note as claimed, while the substrate or backing element must be "treated", it need never be further used for the claims as written.

Due to their lack of clear meaning as discussed above claims 5-8, 25, 28 and 33 cannot be meaningfully further examined on their merits.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out



Art Unit: 1762

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 3-4, 16 and 30-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by cleaning any substrate surface that is later to have something placed on it, deposited on it, written on it, etc, (a paper, a board, a circuit board, a plastic film, a glass slide, etc) by blowing dust or particulate matter or contaminants off the surface. Such practices have been in public use for time immemorial. Applicant has written these claims to be so lacking in necessary context, and broadly alternative to read on such procedures.

8. Claims 1, 3-5, 9-11, 16 and 30-31 are rejected under 35 U.S.C. 102((b) or (e) as being clearly anticipated by Zhang et al (6,165,956) or Li et al (6,593,282 B2).

In Zhang et al (abstract; Fig. 3; col. 3, lines 28-col. 4, line 15; col. 5, lines 15-44; and col. 6, lines 10-30) or its CIP child, Li et al (abstract; fig. 3; Summary; col. 3, lines 25-col. 4, lines 32 and 57-67, etc), both teach cleaning substrates that may be considered backing elements to devices in which they will used, where they are cleaned to remove surface and/or subsurface

Art Unit: 1762

contaminates (i.e. components), using a solution that is a mixture of deionized water (i.e. aqueous), plus organic compounds that may be considered solvents. Note that the listed organic examples are acidic and polar.

9. Claims 1-4, 9-11, 16, 26 and 30-31 are rejected under 35 U.S.C. 102((e) or (b)) as being clearly anticipated by Kondo et al (6,596,638 B1 or 6,117,775).

The Kondo et al references are equivalent to Zhang et al or Li et al for the claimed extraction treatment, as the taught polishing procedure uses a solution of like compounds. Furthermore, they teach that one component of their solution causes oxidation to metal on the surface, while another, such as the organic acid, causes it to be solvated. Kondo et al also reads on the deposition option, teaching deposition of an insulator, such as SiO<sub>2</sub> onto a substrate. In (638B1), see the abstract; col. 6; col. 8, col. 12, lines 24-25 and claims; with (775) having analogous disclosure.

10. Claims 1, 3, 4, 9, 10, 16-17 and 30-31 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Nguyen (6,733,594 B2).

The wafer (i.e. substrate) in Nguyen corresponds to the claimed backing element, the taught wet processes using alcohol or water to remove unwanted (contaminate) particles from the back side of the wafer read on liquid phase extracting, including aqueous and organic polar solvents. That the substrate is also further processes as by plasma deposition or etching reads on the claimed generic deposition or extracting or modifying, specifically for surface modification using a plasma. See the abstract; col. 5, lines 5-25 and col. 8, lines 33-47.

11. Claims 1-4, 9, 10, 16-18, 26 and 30-31 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Cheng et al (6,743,715 B1).

In Cheng et al, see the abstract; col. 2, line 9-col. 3, line 6 for various processes inclusive of plasma deposition of silicon oxide, various plasma etching processes, including those that use O-plasma to remove resist residues, which is an oxidation process, and wet etching using HF solution, which would inherently be aqueous.

12. Claims 1, 3-4, 9 and 29-31 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Tai et al (6,656,611 B2).

Tai et al teach processing of substrates that include deposition of materials thereon; processing insulating structure made of UV-cured polysiloxane with non polar solvents during photolithographic patterning, thus reading on extracting material (components) and modifying the surface. See the abstract; figures; col. 5, lines 8-54; and col. 10, lines 62-67<sup>+</sup>. Note that as “UV/O<sub>2</sub>” is inclusive of or can mean UV or O<sub>2</sub>, the polysiloxane is sequentially contacted with UV then solvent during its patterning, hence technically reading on claim 29 due to its ambiguous possible meanings.

13. Claims (5), (7)-8, 10-11, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tai et al.

While claim 5 is so indefinite to make its discussion with respect to the process problematical and unclearly related to the chosen species, Tai et al’s patterning makes an array of sorts, as illustrated, and is removing siloxane material with developer solution or nonpolar solvents. Whether they are of structures as described by applicant’s specification for “D4-D20” can not be determined, as Tai et al’s tradename series on col. 5 only describes them as siloxane-modified hydrocarbon structures, however this generic description is consistent with applicant’s claimed series which has methyl groups, hence it would have been obvious to one of ordinary

Art Unit: 1762

skill to use any commercially availability siloxanes fitting the general description of Tai et al for their process.

There is no teaching in Tai et al of mixing aqueous and nonpolar solvent, however neither was any such teaching found in the body of applicant's specifications, and claim 10-11 and 14 are ambiguously written as discussed above, hence are included here, as subject matter of potentially intended meaning is taught.

14. Claims 14-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

While discussion of solvent use was found in [0084-93] of the specification, including generic teachings of mixtures, no enablement or specific suggestion or example of using aqueous and non-polar solvent in a mixture, which is potentially what the ambiguous nature of these claims includes, was found. Nonpolar solvents and aqueous; i.e. water, would generally be immiscible or make an emulsion, and no discussion of such was found either, hence enablement for these claims as written with there present dependence appears to be lacking.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tai et al as applied to claims 1, 3-11, 14, 29-31 above, and further in view of Braun et al (5,300,171) or Ishizaka et al (4,311,737).

Tai et al teach nonpolar solvents generically, but does not provide any specific ones for solvating siloxane material, however Braun et al (col. 6, lines 44-49) teach hydrocarbon liquids,

Art Unit: 1762

such as benzene, toluene, xylene; heptane or the like to dissolve cyclic or linear organosiloxanes; or Ishizaka et al (abstract; col. 3, lines 8-39) teach use of organic solvent, such as petroleum hydrocarbons, toluene, etc, or emulsions with water with organosiloxane materials. Therefore it would have been obvious to one of ordinary skill in the art to use these solvents, which are nonpolar and shown to be effective for solvating siloxanes for the generic nonpolar solvents taught by Tai et al, as they have been shown to be old and well known for dissolving taught materials as desired.

16. Claims 1, 16-18, 26, 27 and 30-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tracy et al. (5,780,118).

In Tracy et al, see the abstract and figures. Note that corona discharging is a form of plasma.

17. Claims 1, 3-4, 9-11, 16-18, 26-27 and 29-31 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Frautschi (2004/0234703 A1).

In Frautschi, see the abstract; figure 1-flowchart; and claims, esp. 1, 4-5, 10, 13 & 15-16.

18. Claims 1, 16-18, 26, 27 and 30-31 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Bernard et al. (6,596,346 B2).

In Bernard et al, see the abstract and the steps illustrated by Fig. 1 for a oxidation plasma treatment that makes the surface hydrophilic, followed by contact with a solution that contains water, i.e. is aqueous.

19. Claims 1, 16-18, 26-27, and 29-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Omichi et al (3,849,166).

In Omichi et al, see the abstract; figures; Ex. 1; and claims, esp. 1 and 2, for sequential steps of treating a substrate for use as a photographic film (i.e. a backing element), with corona discharge (air implied) to hydrophilize the surface, followed by application of an aqueous  $H_2O_2$ , then UV rays, then coating.

20. Miklasiewicz et al (6,326,415 B1) and Watanabe et al (JP 59-89758) have further sequential treatment of interest reading on the broad limitations in the claims as presently written.

Also of interest are Halcomb et al (6,753,145 B2), to copending and overlapping inventors, with claims to “hybridizing a microarray”, and applications 10/005,577 & 09/944,083, treating supports and arrays, respectively

21. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 17, 18 or 20 of U.S. Patent No. 6,753,145 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claim 1 is so broad as to include any surface deposition or treatment, and Halcomb et al modifies or deposits on a microarray substrate surface; thus while the patent is of narrower scope, it is totally encompassed by the present broad claim, thus may be considered an obvious variation thereof.

22. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 7 or (1, 35, 40 or 49) of copending Application No. 09/944,083 or 10/005,577, respectively. Although the conflicting claims are not identical, they are not patentably distinct from each other because as discussed above in section 21, the broadness of the present claim encompasses the narrower claims of

Art Unit: 1762

(083) that are processing arrays, and which is performing two of this cases options of claim 1, i.e. the converting step of 7(b) is a surface modification, and the 7(c) a deposition procedure, thus may also be considered above as an obvious variation. The independent claims of (577) have an analogous relationship to the present broad claim 1.

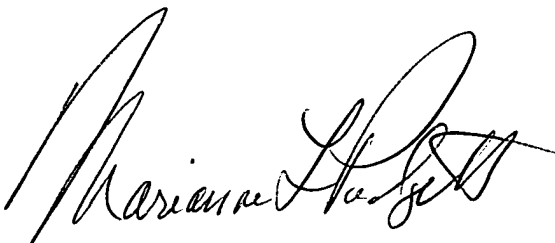
This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on Monday-Friday from about 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. L. Padgett/af  
January 12, 2005  
January 14, 2005

A handwritten signature in black ink, appearing to read 'Marianne Padgett', with a stylized, cursive script.

**MARIANNE PADGETT**  
**PRIMARY EXAMINER**